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SEQUENCE LISTING

<110> DING, Jeak Ling
HO, Bow

<120> Sushi Peptide Multimer

<130> 79612-60

<140> CA2432972
<141> 2003-07-04

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<170> PatentIn Ver. 2.0

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<212> PRT
<213> Artificial Sequence

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<223> Sushi-3 peptide

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Phe Pro Gln Gly Thr Glu Val Thr Tyr Thr Cys Ser Gly Asn Tyr Phe
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Leu Met

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Phe Pro Gln Gly Thr Glu Val Thr Tyr Thr Cys Ser Gly Asn Tyr Phe
20 25 30

Leu Met

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<223> reverse primer

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Val Leu Gly Leu Ala Gln Lys Met Arg Pro Val Gln Ser Lys Gly
15 20 25

gta gat cta ggc ttg tgt gat gaa acg agg ttc gag tgt aag tgt ggc 146
Val Asp Leu Gly Leu Cys Asp Glu Thr Arg Phe Glu Cys Lys Cys Gly
30 35 40

gat cca ggc tat gtg ttc aac att cca gtg aaa caa tgt aca tac ttt 194
Asp Pro Gly Tyr Val Phe Asn Ile Pro Val Lys Gln Cys Thr Tyr Phe
45 50 55

tat cga tgg agg ccg tat tgt aaa cca tgt gat gac ctg gag gct aag 242
Tyr Arg Trp Arg Pro Tyr Cys Lys Pro Cys Asp Asp Leu Glu Ala Lys
60 65 70 75

gat att tgt cca aag tac aaa cga tgt caa gag tgt aag gct ggt ctt 290
Asp Ile Cys Pro Lys Tyr Lys Arg Cys Gln Glu Cys Lys Ala Gly Leu
80 85 90

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gat agt tgt gtt act tgt cca cct aac aaa tat ggt act tgg tgt agc 338
 Asp Ser Cys Val Thr Cys Pro Pro Asn Lys Tyr Gly Thr Trp Cys Ser
 95 100 105

ggt gaa tgt cag tgt aag aat gga ggt atc tgt gac cag agg aca gga 386
 Gly Glu Cys Gln Cys Lys Asn Gly Gly Ile Cys Asp Gln Arg Thr Gly
 110 115 120

gct tgt gca tgt cgt gac aga tat gaa ggg gtg cac tgt gaa att ctc 434
 Ala Cys Ala Cys Arg Asp Arg Tyr Glu Gly Val His Cys Glu Ile Leu
 125 130 135

aaa ggt tgt cct ctt ctt cca tcg gat tct cag gtt cag gaa gtc aga 482
 Lys Gly Cys Pro Leu Leu Pro Ser Asp Ser Gln Val Gln Glu Val Arg
 140 145 150 155

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 Asn Pro Pro Asp Asn Pro Gln Thr Ile Asp Tyr Ser Cys Ser Pro Gly
 160 165 170

ttc aag ctt aag ggt atg gca cga att agc tgt ctc cca aat gga cag 578
 Phe Lys Leu Lys Gly Met Ala Arg Ile Ser Cys Leu Pro Asn Gly Gln
 175 180 185

tgg agt aac ttt cca ccc aaa tgt att cga gaa tgt gcc atg gtt tca 626
 Trp Ser Asn Phe Pro Pro Lys Cys Ile Arg Glu Cys Ala Met Val Ser
 190 195 200

tct cca gaa cat ggg aaa gtg aat gct ctt agt ggt gat atg ata gaa 674
 Ser Pro Glu His Gly Lys Val Asn Ala Leu Ser Gly Asp Met Ile Glu
 205 210 215

ggg gct act tta cgg ttc tca tgt gat agt ccc tac tac ttg att ggt 722
 Gly Ala Thr Leu Arg Phe Ser Cys Asp Ser Pro Tyr Tyr Leu Ile Gly
 220 225 230 235

caa gaa aca tta acc tgt cag ggt aat ggt cag tgg aat gga cag ata 770
 Gln Glu Thr Leu Thr Cys Gln Gly Asn Gly Gln Trp Asn Gly Gln Ile
 240 245 250

cca caa tgt aag aac ttg gtc ttc tgt cct gac ctg gat cct gta aac 818
 Pro Gln Cys Lys Asn Leu Val Phe Cys Pro Asp Leu Asp Pro Val Asn
 255 260 265

cat gct gaa cac aag gtt aaa att ggt gtg gaa caa aaa tat ggt cag 866
 His Ala Glu His Lys Val Lys Ile Gly Val Glu Gln Lys Tyr Gly Gln
 270 275 280

ttt cct caa ggc act gaa gtg acc tat acg tgt tcg ggt aac tac ttc 914
 Phe Pro Gln Gly Thr Glu Val Thr Tyr Thr Cys Ser Gly Asn Tyr Phe
 285 290 295

ttg atg ggt ttt gac acc tta aaa tgt aac cct gat ggg tct tgg tca 962
 Leu Met Gly Phe Asp Thr Leu Lys Cys Asn Pro Asp Gly Ser Trp Ser
 300 305 310 315

gga tca cag cca tcc tgt gtt aaa gtg gca gac aga gag gtc gac tgt 1010
 Gly Ser Gln Pro Ser Cys Val Lys Val Ala Asp Arg Glu Val Asp Cys
 320 325 330

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Asp Ser Lys Ala Val Asp Phe Leu Asp Asp Val Gly Glu Pro Val Arg			
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atc cac tgt cct gct ggc tgt tct ttg aca gct ggt act gtg tgg ggt		1106	
Ile His Cys Pro Ala Gly Cys Ser Leu Thr Ala Gly Thr Val Trp Gly			
350	355	360	
aca gcc ata tac cat gaa ctt tcc tca gtg tgt cgt gca gcc atc cat		1154	
Thr Ala Ile Tyr His Glu Leu Ser Ser Val Cys Arg Ala Ala Ile His			
365	370	375	
gct ggc aag ctt cca aac tct gga gga gcg gtg cat gtt gtg aac aat		1202	
Ala Gly Lys Leu Pro Asn Ser Gly Gly Ala Val His Val Val Asn Asn			
380	385	390	395
ggc ccc tac tcg gac ttt ctg ggt agt gac ctg aat ggg ata aaa tcg		1250	
Gly Pro Tyr Ser Asp Phe Leu Gly Ser Asp Leu Asn Gly Ile Lys Ser			
400	405	410	
gaa gag ttg aag tct ctt gcc cggtt gtt aca tca gtt tat gtc cgt		1298	
Glu Glu Leu Lys Ser Leu Ala Arg Ser Phe Arg Phe Asp Tyr Val Arg			
415	420	425	
tcc tcc aca gca ggt aaa tca gga tgt cct gat gga tgg ttt gag gta		1346	
Ser Ser Thr Ala Gly Lys Ser Gly Cys Pro Asp Gly Trp Phe Glu Val			
430	435	440	
gac gag aac tgt gtg tac gtt aca tca aaa cag aga gca tgg gaa aga		1394	
Asp Glu Asn Cys Val Tyr Val Thr Ser Lys Gln Arg Ala Trp Glu Arg			
445	450	455	
gct caa ggt gtg tgt acc aat atg gct gct ctt gct gtg ctg gac		1442	
Ala Gln Gly Val Cys Thr Asn Met Ala Ala Arg Leu Ala Val Leu Asp			
460	465	470	475
aaa gat gta att cca aat tcg ttg act gag act cta cga ggg aaa ggg		1490	
Lys Asp Val Ile Pro Asn Ser Leu Thr Glu Thr Leu Arg Gly Lys Gly			
480	485	490	
tta aca acc acg tgg ata gga ttg cac aga cta gat gct gag aag ccc		1538	
Leu Thr Thr Trp Ile Gly Leu His Arg Leu Asp Ala Glu Lys Pro			
495	500	505	
ttt att tgg gag tta atg gat cgt agt aat gtt ctg aat gat aac		1586	
Phe Ile Trp Glu Leu Met Asp Arg Ser Asn Val Val Leu Asn Asp Asn			
510	515	520	

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ct a ca ttc tgg gcc tct ggc gaa cct gga aat gaa act aac tgt gta		1634	
Leu Thr Phe Trp Ala Ser Gly Glu Pro Gly Asn Glu Thr Asn Cys Val			
525	530	535	
tat atg gac atc caa gat cag ttg cag tct gtg tgg aaa acc aag tca		1682	
Tyr Met Asp Ile Gln Asp Gln Leu Gln Ser Val Trp Lys Thr Lys Ser			
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tgt ttt cag ccc tca agt ttt gct tgc atg atg gat ctg tca gac aga		1730	
Cys Phe Gln Pro Ser Ser Phe Ala Cys Met Met Asp Leu Ser Asp Arg			
560	565	570	
aat aaa gcc aaa tgc gat gat cct gga tca ctg gaa aat gga cac gcc		1778	
Asn Lys Ala Lys Cys Asp Asp Pro Gly Ser Leu Glu Asn Gly His Ala			
575	580	585	
aca ctt cat gga caa agt att gat ggg ttc tat gct ggt tct tct ata		1826	
Thr Leu His Gly Gln Ser Ile Asp Gly Phe Tyr Ala Gly Ser Ser Ile			
590	595	600	
agg tac agc tgt gag gtt ctc cac tac ctc agt gga act gaa acc gta		1874	
Arg Tyr Ser Cys Glu Val Leu His Tyr Leu Ser Gly Thr Glu Thr Val			
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act tgt aca aca aat ggc aca tgg agt gct cct aaa cct cga tgt atc		1922	
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Lys Val Ile Thr Cys Gln Asn Pro Pro Val Pro Ser Tyr Gly Ser Val			
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gaa atc aaa ccc cca agt .cg aca aac tcg ata agt cgt gtt ggg tca		2018	
Glu Ile Lys Pro Pro Ser Arg Thr Asn Ser Ile Ser Arg Val Gly Ser			
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cct ttc ttg agg ttg cca cg tta ccc ctc cca tta gct aga gca gcc		2066	
Pro Phe Leu Arg Leu Pro Arg Leu Pro Leu Ala Arg Ala Ala			
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Lys Pro Pro Pro Lys Pro Arg Ser Ser Gln Pro Ser Thr Val Asp Leu			
685	690	695	
gct tct aaa gtt aaa cta cct gaa ggt cat tac cg gta ggg tct cga		2162	
Ala Ser Lys Val Lys Leu Pro Glu Gly His Tyr Arg Val Gly Ser Arg			
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gcc atc tac acg tgc gag tcg aga tac tac gaa cta ctt gga tct caa		2210	
Ala Ile Tyr Thr Cys Glu Ser Arg Tyr Tyr Glu Leu Leu Gly Ser Gln			
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ggc aga aga tgt gac tct aat gga aac tgg agt ggt cg gca gcg agc		2258	
Gly Arg Arg Cys Asp Ser Asn Gly Asn Trp Ser Gly Arg Pro Ala Ser			
735	740	745	

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atc tct aga tgg ctt gca gac cac aat atg tgg ttt ctc cag tgg gga Ile Ser Arg Trp Leu Ala Asp His Asn Met Trp Phe Leu Gln Cys Gly 780 785 790 795	2402
gga tct cta ttg aat gag aaa tgg atc gtc act gct gcc cac tgg gtc Gly Ser Leu Leu Asn Glu Lys Trp Ile Val Thr Ala Ala His Cys Val 800 805 810	2450
acc tac tct gct act gct gag att att gac ccc aat cag ttt aaa atg Thr Tyr Ser Ala Thr Ala Glu Ile Ile Asp Pro Asn Gln Phe Lys Met 815 820 825	2498
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caa gta aga gag gct ctt gag atc cac gtg aat cct aac tac gac ccc Gln Val Arg Glu Ala Leu Glu Ile His Val Asn Pro Asn Tyr Asp Pro 845 850 855	2594
ggc aat ctc aac ttt gac ata gcc cta att caa ctg aaa act cct gtt Gly Asn Leu Asn Phe Asp Ile Ala Leu Ile Gln Leu Lys Thr Pro Val 860 865 870 875	2642
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ggt ttg aat gaa aac aac acc tat tca gag acg att caa caa gct gtg Gly Leu Asn Glu Asn Asn Thr Tyr Ser Glu Thr Ile Gln Gln Ala Val 910 915 920	2786
cta cct gtt gca gcc agc acc tgg gaa gag ggg tac aag gaa gca Leu Pro Val Val Ala Ala Ser Thr Cys Glu Glu Gly Tyr Lys Glu Ala 925 930 935	2834
gac tta cca ctg aca gta aca gag aac atg ttc tgt gca ggt tac aag Asp Leu Pro Leu Thr Val Thr Glu Asn Met Phe Cys Ala Gly Tyr Lys 940 945 950 955	2882
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ttt gct gat gat tcc cgt acc gaa agg cggtgg gtc ttg gaa ggg att 2978
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 975 980 985

gtc agc tgg ggc agt ccc agt gga tgt ggc aag gcg aac cag tac ggg 3026
 Val Ser Trp Gly Ser Pro Ser Gly Cys Lys Ala Asn Gln Tyr Gly
 990 995 1000

ggc ttc act aaa gtt aac gtt ttc ctg tca tgg att agg cag ttc att 3074
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<212> PRT

<213> Carcinoscorpius rotundicauda

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 35 40 45

Phe Asn Ile Pro Val Lys Gln Cys Thr Tyr Phe Tyr Arg Trp Arg Pro
 50 55 60

Tyr Cys Lys Pro Cys Asp Asp Leu Glu Ala Lys Asp Ile Cys Pro Lys
 65 70 75 80

Tyr Lys Arg Cys Gln Glu Cys Lys Ala Gly Leu Asp Ser Cys Val Thr
 85 90 95

Cys Pro Pro Asn Lys Tyr Gly Thr Trp Cys Ser Gly Glu Cys Gln Cys
 100 105 110

Lys Asn Gly Gly Ile Cys Asp Gln Arg Thr Gly Ala Cys Ala Cys Arg
 115 120 125

Asp Arg Tyr Glu Gly Val His Cys Glu Ile Leu Lys Gly Cys Pro Leu
 130 135 140

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Leu Pro Ser Asp Ser Gln Val Gln Glu Val Arg Asn Pro Pro Asp Asn
 145 150 155 160
 Pro Gln Thr Ile Asp Tyr Ser Cys Ser Pro Gly Phe Lys Leu Lys Gly
 165 170 175
 Met Ala Arg Ile Ser Cys Leu Pro Asn Gly Gln Trp Ser Asn Phe Pro
 180 185 190
 Pro Lys Cys Ile Arg Glu Cys Ala Met Val Ser Ser Pro Glu His Gly
 195 200 205
 Lys Val Asn Ala Leu Ser Gly Asp Met Ile Glu Gly Ala Thr Leu Arg
 210 215 220
 Phe Ser Cys Asp Ser Pro Tyr Tyr Leu Ile Gly Gln Glu Thr Leu Thr
 225 230 235 240
 Cys Gln Gly Asn Gly Gln Trp Asn Gly Gln Ile Pro Gln Cys Lys Asn
 245 250 255
 Leu Val Phe Cys Pro Asp Leu Asp Pro Val Asn His Ala Glu His Lys
 260 265 270
 Val Lys Ile Gly Val Glu Gln Lys Tyr Gly Gln Phe Pro Gln Gly Thr
 275 280 285
 Glu Val Thr Tyr Thr Cys Ser Gly Asn Tyr Phe Leu Met Gly Phe Asp
 290 295 300
 Thr Leu Lys Cys Asn Pro Asp Gly Ser Trp Ser Gly Ser Gln Pro Ser
 305 310 315 320
 Cys Val Lys Val Ala Asp Arg Glu Val Asp Cys Asp Ser Lys Ala Val
 325 330 335
 Asp Phe Leu Asp Asp Val Gly Glu Pro Val Arg Ile His Cys Pro Ala
 340 345 350
 Gly Cys Ser Leu Thr Ala Gly Thr Val Trp Gly Thr Ala Ile Tyr His
 355 360 365
 Glu Leu Ser Ser Val Cys Arg Ala Ala Ile His Ala Gly Lys Leu Pro
 370 375 380
 Asn Ser Gly Gly Ala Val His Val Val Asn Asn Gly Pro Tyr Ser Asp
 385 390 395 400
 Phe Leu Gly Ser Asp Leu Asn Gly Ile Lys Ser Glu Glu Leu Lys Ser
 405 410 415
 Leu Ala Arg Ser Phe Arg Phe Asp Tyr Val Arg Ser Ser Thr Ala Gly
 420 425 430
 Lys Ser Gly Cys Pro Asp Gly Trp Phe Glu Val Asp Glu Asn Cys Val
 435 440 445
 Tyr Val Thr Ser Lys Gln Arg Ala Trp Glu Arg Ala Gln Gly Val Cys
 450 455 460

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Thr Asn Met Ala Ala Arg Leu Ala Val Leu Asp Lys Asp Val Ile Pro
 465 470 475 480
 Asn Ser Leu Thr Glu Thr Leu Arg Gly Lys Gly Leu Thr Thr Thr Trp
 485 490 495
 Ile Gly Leu His Arg Leu Asp Ala Glu Lys Pro Phe Ile Trp Glu Leu
 500 505 510
 Met Asp Arg Ser Asn Val Val Leu Asn Asp Asn Leu Thr Phe Trp Ala
 515 520 525
 Ser Gly Glu Pro Gly Asn Glu Thr Asn Cys Val Tyr Met Asp Ile Gln
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 Asp Gln Leu Gln Ser Val Trp Lys Thr Lys Ser Cys Phe Gln Pro Ser
 545 550 555 560
 Ser Phe Ala Cys Met Met Asp Leu Ser Asp Arg Asn Lys Ala Lys Cys
 565 570 575
 Asp Asp Pro Gly Ser Leu Glu Asn Gly His Ala Thr Leu His Gly Gln
 580 585 590
 Ser Ile Asp Gly Phe Tyr Ala Gly Ser Ser Ile Arg Tyr Ser Cys Glu
 595 600 605
 Val Leu His Tyr Leu Ser Gly Thr Glu Thr Val Thr Cys Thr Thr Asn
 610 615 620
 Gly Thr Trp Ser Ala Pro Lys Pro Arg Cys Ile Lys Val Ile Thr Cys
 625 630 635 640
 Gln Asn Pro Pro Val Pro Ser Tyr Gly Ser Val Glu Ile Lys Pro Pro
 645 650 655
 Ser Arg Thr Asn Ser Ile Ser Arg Val Gly Ser Pro Phe Leu Arg Leu
 660 665 670
 Pro Arg Leu Pro Leu Pro Leu Ala Arg Ala Ala Lys Pro Pro Pro Lys
 675 680 685
 Pro Arg Ser Ser Gln Pro Ser Thr Val Asp Leu Ala Ser Lys Val Lys
 690 695 700
 Leu Pro Glu Gly His Tyr Arg Val Gly Ser Arg Ala Ile Tyr Thr Cys
 705 710 715 720
 Glu Ser Arg Tyr Tyr Glu Leu Leu Gly Ser Gln Gly Arg Arg Cys Asp
 725 730 735
 Ser Asn Gly Asn Trp Ser Gly Arg Pro Ala Ser Cys Ile Pro Val Cys
 740 745 750
 Gly Arg Ser Asp Ser Pro Arg Ser Pro Phe Ile Trp Asn Gly Asn Ser
 755 760 765
 Thr Glu Ile Gly Gln Trp Pro Trp Gln Ala Gly Ile Ser Arg Trp Leu
 770 775 780

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Ala Asp His Asn Met Trp Phe Leu Gln Cys Gly Gly Ser Leu Leu Asn
 785 790 795 800

Glu Lys Trp Ile Val Thr Ala Ala His Cys Val Thr Tyr Ser Ala Thr
 805 810 815

Ala Glu Ile Ile Asp Pro Asn Gln Phe Lys Met Tyr Leu Gly Lys Tyr
 820 825 830

Tyr Arg Asp Asp Ser Arg Asp Asp Tyr Val Gln Val Arg Glu Ala
 835 840 845

Leu Glu Ile His Val Asn Pro Asn Tyr Asp Pro Gly Asn Leu Asn Phe
 850 855 860

Asp Ile Ala Leu Ile Gln Leu Lys Thr Pro Val Thr Leu Thr Thr Arg
 865 870 875 880

Val Gln Pro Ile Cys Leu Pro Thr Asp Ile Thr Thr Arg Glu His Leu
 885 890 895

Lys Glu Gly Thr Leu Ala Val Val Thr Gly Trp Gly Leu Asn Glu Asn
 900 905 910

Asn Thr Tyr Ser Glu Thr Ile Gln Gln Ala Val Leu Pro Val Val Ala
 915 920 925

Ala Ser Thr Cys Glu Glu Gly Tyr Lys Glu Ala Asp Leu Pro Leu Thr
 930 935 940

Val Thr Glu Asn Met Phe Cys Ala Gly Tyr Lys Lys Gly Arg Tyr Asp
 945 950 955 960

Ala Cys Ser Gly Asp Ser Gly Gly Pro Leu Val Phe Ala Asp Asp Ser
 965 970 975

Arg Thr Glu Arg Arg Trp Val Leu Glu Gly Ile Val Ser Trp Gly Ser
 980 985 990

Pro Ser Gly Cys Gly Lys Ala Asn Gln Tyr Gly Phe Thr Lys Val
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Asn Val Phe Leu Ser Trp Ile Arg Gln Phe Ile
 1010 1015

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 <212> PRT
 <213> Artificial Sequence

<220>
 <223> rS3-1mer

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Phe	Leu	Met	Asp
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ggt aac tac ttc ttg atg gac ccc cag gat ccc cat gct gaa cac aag Gly Asn Tyr Phe Leu Met Asp Pro Gln Asp Pro His Ala Glu His Lys 35 40 45	144
gtt aaa att ggt gtg gaa caa aaa tat ggt cag ttt cct caa ggc act Val Lys Ile Gly Val Glu Gln Lys Tyr Gly Gln Phe Pro Gln Gly Thr 50 55 60	192
gaa gtg acc tat acg tgt tcg ggt aac tac ttc ttg atg gac ccc cag Glu Val Thr Tyr Thr Cys Ser Gly Asn Tyr Phe Leu Met Asp Pro Gln 65 70 75 80	240
gat ccc cat gct gaa cac aag gtt aaa att ggt gtg gaa caa aaa tat Asp Pro His Ala Glu His Lys Val Lys Ile Gly Val Glu Gln Lys Tyr 85 90 95	288
ggc cag ttt cct caa ggc act gaa gtg acc tat acg tgt tcg ggt aac Gly Gln Phe Pro Gln Gly Thr Glu Val Thr Tyr Thr Cys Ser Gly Asn 100 105 110	336
tac ttc ttg atg gac ccc cag gat ccc cat gct gaa cac aag gtt aaa Tyr Phe Leu Met Asp Pro Gln Asp Pro His Ala Glu His Lys Val Lys 115 120 125	384
att ggt gtg gaa caa aaa tat ggt cag ttt cct caa ggc act gaa gtg Ile Gly Val Glu Gln Lys Tyr Gly Gln Phe Pro Gln Gly Thr Glu Val 130 135 140	432
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<211> 156
<212> PRT
<213> Artificial Sequence

<220>
<223> rS3-4mer

<400> 9

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Lys Tyr Gly Gln Phe Pro Gln Gly Thr Glu Val Thr Tyr Thr Cys Ser
20 25 30

Gly Asn Tyr Phe Leu Met Asp Pro Gln Asp Pro His Ala Glu His Lys
35 40 45

Val Lys Ile Gly Val Glu Gln Lys Tyr Gly Gln Phe Pro Gln Gly Thr
50 55 60

Glu Val Thr Tyr Thr Cys Ser Gly Asn Tyr Phe Leu Met Asp Pro Gln
65 70 75 80

Asp Pro His Ala Glu His Lys Val Lys Ile Gly Val Glu Gln Lys Tyr
85 90 95

Gly Gln Phe Pro Gln Gly Thr Glu Val Thr Tyr Thr Cys Ser Gly Asn
100 105 110

Tyr Phe Leu Met Asp Pro Gln Asp Pro His Ala Glu His Lys Val Lys
115 120 125

Ile Gly Val Glu Gln Lys Tyr Gly Gln Phe Pro Gln Gly Thr Glu Val
130 135 140

Thr Tyr Thr Cys Ser Gly Asn Tyr Phe Leu Met Asp
145 150 155